

Abstract

During a process of manufacturing a spin valve film which produces a large read out signal upon being used as a reading element of a thin film magnetic head, after a completion of a film making process for forming a previous film of two films to be formed successively, but before an initiation of a film making process for forming a succeeding film of the two films, a step of decreasing an anisotropic magnetic field of the spin valve film by interrupting a film making process is introduced. The anisotropic magnetic field reducing step may be performed by keeping a substrate within a sputtering vacuum chamber. A period of the interruption can be shortened by exposing the substrate to a plasma, by transferring the substrate in a separate vacuum chamber whose degree of vacuum is lower than that of the sputtering vacuum chamber or whose H₂O or O₂ concentration is higher than that in the sputtering vacuum chamber, by conducting a surface treatment with a gas containing H₂O or O₂ by not less than 1 ppm, or by flowing a process gas.

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